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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,659	11/17/2003	Joel V. Weinstock	27045/2032	5366

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EXAMINER	
ZEMAN, ROBERT A	

ART UNIT	PAPER NUMBER
1645	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/715,659	WEINSTOCK ET AL.	
	Examiner	Art Unit	
	ROBERT A. ZEMAN	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2009*.

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8 and 17-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8 and 17-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The amendment filed on 11-23-2009 is acknowledged. Claims 8, 17 and 23 have been amended. Claims 24-26 have been added. Claims 8 and 17-26 are pending and currently under examination.

Specification

The specification is objected to for containing multiple spelling errors. The term "naive" is misspelled as "nave" throughout the specification.

Claim Rejections Maintained

35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 17-18, 20 and 22-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Weinstock et al. (WO 99/33479) for the reasons set forth in the previous Office action in the rejection of claims 8, 17-18, 20 and 22-23.

Applicant argues:

1. Weinstock et al. discloses the determination of Th1 and Th2 responses by measuring the production of various cytokines and cell surface markers after administering a helminthic

parasite preparation in order to show efficacy of treatment which is distinct from the instantly recited step of measuring regulatory T cell responses.

2. A measure of a single cytokine has different meanings with respect to the measurement of a Th1 response, a Th2 response or a regulatory T cell response.

3. Weinstock does not teach how to correlate a cytokine level with measuring T cell responses.

4. Weinstock does not mention T regulatory cells, the cytokines they secrete or their distinguishing cell markers or their activity.

5. The focus of the instantly claimed methods is on markers and cytokines of regulatory T cells as opposed to markers and cytokines of Th1 T cells and /or Th2 T cells as taught by Weinstock.

6. *Foxp3* is only expressed by regulatory T cells which also express increased amounts of IL-10 and/or TGFβ and a decreased amount of IFNγ.

7. Weinstock et al. does not disclose measuring the non-cytokine markers recited in pending claims 18-22.

Applicant's arguments have been fully considered and deemed non-persuasive.

With regard to Point 1, the instant claims require the performance of two active steps. First, the administration of a helminthic preparation and secondly, determining the level of regulatory T cell activity. Given that the specification discloses that activity of regulatory T cells can be determined including IL4, IL-5, TGFβ and IFNγ (see paragraph [0049] for example), the rejected claims merely require that an indicator of regulatory T cell activity be measured.. Since Weinstock et al. disclose measuring the production of various cytokines and cell surface markers including IL4, IL-5, TGFβ and IFNγ (see pages 21-25) "in order to show efficacy" of their method (see page 21) Weinstock et al. anticipates the rejected

With regard to Points 2 ,3 and 4, the rejected claims merely require that an indicator of regulatory T cell activity be measured.

With regard to Point 5, the focus of the rejected claims is treating an animal with a Th1 or Th2 related disease by the administration of a helminthic parasite preparation. As acknowledged by Applicant, this was disclosed by Weinstock et al.

With regard to Point 6, the instant claims are not limited to the measurement of *Foxp3*.

With regard to Point 7, claims 19 and 21 were not included in the instant rejection so Applicant's arguments regarding the specific markers recited in said claims are not germane. Moreover, claims 18, 20 and 22 are drawn to generic markers and as such encompass the markers disclosed by Weinstock et al. which are measured by ELISAs (secreted markers) and flow cytometry (internal and surface markers).

As outlined previously, Weinstock et al. disclose methods of treating methods of treating diseases associated with an aberrant/enhanced Th1 response by administering a helminthic parasite preparation. Said diseases include Crohn's disease, ulcerative colitis, rheumatoid arthritis, type 1 diabetes mellitus, lupus erythematosis, Sarcoidosis and multiple sclerosis (see abstract). Consequently, Weinstock et al. anticipate all the limitations of the rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 8 and 17-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinstock et al. (WO 99/33479) for the reasons set forth in the previous Office action in the rejection of claims 8 and 17-23.

Applicant argues:

1. Weinstock et al. discloses the determination of Th1 and Th2 responses by measuring the production of various cytokines and cell surface markers after administering a helminthic parasite preparation in order to show efficacy of treatment whereas the instant invention measure regulatory T cell activation markers.

2. The Office action provides no explanation how T cell activation markers relate to the instantly claimed method.

3. The step of measuring regulatory T cell responses after administering a helminthic preparation was not known.

4. Neither the Office action nor the cited art provide a reason to look at markers of regulatory T cells.

5. The skilled artisan would not have had a reasonable expectation of success.

6. The instant claims are not drawn to a method of treatment comprising determining the level of T cell activation markers but a method of treatment comprising measuring the level of regulatory T cell markers.

Applicant's arguments have been fully considered and deemed non-persuasive.

With regard to Point 1, the instant claims require the performance of two active steps. First, the administration of a helminthic preparation and secondly, determining the level of regulatory T cell activity. The specification discloses that activity of regulatory T cells can be determined by measuring a myriad of cytokine and/or surface cell markers including CD4, IL4, IL-5, TGFβ and IFNγ (see paragraph [0049] for example). Given that Weinstock et al. disclose the determination of Th1 and Th2 responses after treatment with the claimed composition "in order to show efficacy" of their method (see page 21) and said responses were determined by measuring the production of various cytokines and cell surface markers include IL4, IL-5, TGFβ and IFNγ (see pages 21-25),

With regard to Point 2-6, contrary to Applicant's assertion, the measurement of regulatory T cell responses was known as some of said responses (i.e. markers) are encompassed by the measurement of Th1 and Th2 responses. For example, CD4 is known in the art as a marker for all T helper cells; CCR5 is known as a Th1 helper cell marker; and the transcriptional factors Gata3 and Tbet are both known in the art as being involved in T helper cell responses.

Consequently, the measurement of any of these markers is encompassed by the disclosure of Weinstock et al.. Given that there is significant overlap between the markers of various Th1, Th2 and regulatory T cells, the cited reference renders the instant claims obvious. Moreover, given that Weinstock et al. disclose the methods by which cell markers can be measured (e.g. ELISAs and flow cytometry), the skilled artisan would have had a reasonable expectation of success.

As outlined previously, Weinstock et al. disclose methods of treating methods of treating diseases associated with an aberrant/enhanced Th1 response by administering a helminthic parasite preparation. Said diseases include Crohn's disease, ulcerative colitis, rheumatoid arthritis, type 1 diabetes mellitus, lupus erythematosis, Sarcoidosis and multiple sclerosis (see abstract). Weinstock et al. further disclose the determination of Th1 and Th2 responses after treatment with the claimed composition "in order to show efficacy" of their method (see page 21). Said responses were determined by measuring the production of various cytokines and cell surface markers (see pages 21-25).

Weinstock et al. differs from the instant invention in that they don't explicitly disclose the regulatory T cell markers recited in claims 19 and 21. However, in view of the KSR decision, since the use of screening of the recited T cell markers is well known in the art yielding predictable results, it is obvious for the skilled artisan to use them in the methods of Weinstock et al. for determination of Th1 and Th2 responses after treatment with the claimed composition "in order to show efficacy" of their method (see *KSR International Co. v. Teleflex Inc.*, No. 04-1350 [U.S. Apr. 30, 2007])

New Grounds of Objection

Claim Objections

Claims 23-26 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Said claims merely recite the definition of a regulatory T cell as defined in the specification.

Conclusion

No claim is allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT A. ZEMAN whose telephone number is (571)272-0866. The examiner can normally be reached on Monday- Thursday, 7am -5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Mondesi can be reached on (571) 272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Robert A. Zeman/
Primary Examiner, Art Unit 1645
February 23, 2010